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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,374	09/02/2004	Gerald Adams	J3651(C)	1186
201 7590 07/14/2010 UNILEVER PATENT GROUP 800 SYLVAN AVENUE AG West S. Wing ENGLEWOOD CLIFFS, NJ 07632-3100				
EXAMINER				
LEA, CHRISTOPHER RAYMOND				
ART UNIT		PAPER NUMBER		
1619				
NOTIFICATION DATE		DELIVERY MODE		
07/14/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentgroupus@unilever.com

Office Action Summary

Application No.

10/506,374

Applicant(s)

ADAMS ET AL.

Examiner

Christopher R. Lea

Art Unit

1619

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-12,15 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-12,15 and 17-21 is/are rejected.
- 7) ☒ Claim(s) 3 & 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date 8/7/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This application is a 371 (national stage application) of PCT/EP03/01581.

The Examiner and Art Unit location of your application in the USPTO have changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Examiner Christopher Lea in Art Unit 1619.

Receipt of Amendments/Remarks filed on August 7, 2009, is acknowledged. In response to Non-final office action dated April 7, 2009, applicant amended claims 1-3, 9, 10, 12, & 13 and added new claims 20 & 21. Claims 1-3, 5-13, 15, & 17-21 are pending. Claims 1-3, 5-13, 15, & 17-21 are under examination.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement(s) (IDS) submitted on August 7, 2009, was filed after the mailing date of the first office action on the merits. The submission is in

compliance with the provisions of 37 CFR 1.97 & 1.98. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Objections

3. Claim 3 is objected to because of the following informalities: Claim 3 appears to contain a grammatical/typographical error in that, in line 3, there is an open parenthesis that is not closed. The examiner believes that the closing parenthesis should be after the word "methacrylate" in line 3. Appropriate correction is required.
4. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The ranges in claim 21 are the same ranges as in claim 20 from which it depends (i.e. the claims are textually identical except for the claim from which they depend); therefore, the claim does not further limit the claim from which it depends.
5. The examiner notes (though this is not an objection) that claims 1-3 describe the B block as made of ethylene glycol and yet claims 20 & 21 refer to block B in terms of ethyleneoxy units. While these terms are synonymous in the polymer art, applicant may wish to choose one term and amend the others to it, for the sake of clarity and internal consistency.

Response to Arguments

6. Applicant's arguments, see pages 8-12 of the Remarks, filed August 7, 2009, with respect to the rejection(s) of claim(s) 1-3, 5-15, and 17-19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-3, 7-13, 15, 17, 18, 20, & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papantoniou et al. (US Patent 4,030,512).

Applicant claims

Applicant claims a hair treatment composition comprising a propellant, a carrier, and a copolymer, wherein the copolymer is an ABA copolymer where in the B block in poly(ethylene glycol), the A block is a (meth)acrylate block, and the blocks are connected to each other by a divalent linker group.

Determination of the scope and content of the prior art (MPEP 2141.01)

Papantoniou et al. teach, as a whole, hair compositions comprising a carrier and a bi- or tri-sequenced (i.e. di- or tri-block) copolymer (abstract).

Claims 1-3: Papantoniou et al. teach a hair composition based on sequenced copolymers containing 2 or 3 sequences (blocks) (column 1, lines 29-45). Papantoniou et al. teach that the (A) sequence is based on an acrylate monomer (column 1, line 46 through column 2 line 6 and formula I). Papantoniou et al. specifically teach 2-(N,N-dimethylamino)ethyl methacrylate among the monomers of the (A) sequence (column 3, lines 22-27). Papantoniou et al. teach that the (B) sequence can be made of polymerized ethylene oxide (i.e. poly(ethylene glycol)) (column 2, lines 64-66 and formula III). Papantoniou et al. teach that the polymer may be formulated in a cosmetic

composition containing a carrier such as ethanol and a propellant, packaged in an aerosol container (column 4, lines 17-26). As to the divalent linker between blocks, nothing in the claims prevents the terminal monomer of a block from being considered a divalent linker. The limitation of the container being "labeled for use in styling hair" is not considered to distinguish over the prior art because there is not a novel and unobvious functional relationship between the printed matter and the composition (See MPEP § 2112.01 III), since Papantoniou et al. establish that the composition is useful for styling hair (column 4, lines 51-65).

Claims 7, 17, & 18: As to the claimed solubility of the polymer in water and/or ethanol, where the claimed and prior art products are substantially identical in structure or composition, or are produced by substantially identical processes, a *prima facie* case of obviousness has been established. Further, The U.S. Patent Office is not equipped with analytical instruments to test prior art compositions for the infinite number of ways that a subsequent applicant may present previously unmeasured characteristics. When as here, the prior art appears to contain the exact same ingredients and applicant's own disclosure supports the suitability of the prior art composition as the inventive composition component, the burden is properly shifted to applicant to show otherwise. Absent evidence to the contrary, the prior art composition must possess the claimed solubility of the polymer in water and/or ethanol, since it is substantially identical to the claimed composition (See MPEP § 2112.01).

Claims 8 & 11: Papantoniou et al. teach that the composition may further contain perfumes or silicones (hair styling polymers) (column 4, lines 33-38).

Claim 9 & 13: Papantoniou et al. teach that the composition contains 60-99.8% propellant (column 4, lines 22-25). Though this is outside the claimed range, the ordinarily skilled artisan is clearly able to determine the amount of propellant necessary to administer the composition from the container.

Claim 10: Papantoniou et al. teach that the composition contains 0.2-5% copolymer (column 4, lines 19-20).

Claim 12: Papantoniou et al. teach that the composition may further contain anionic, cationic, or nonionic products (surfactants) (column 4, lines 33-38). Though Papantoniou et al. is silent as to the amounts of these compounds to be used, the ordinarily skilled artisan is clearly able to determine the amount of surfactant necessary to impart the desired hair styling properties to the composition.

Claim 15: Papantoniou et al. teach that the composition is useful for styling hair, which is carried out by applying the composition to hair (column 4, lines 51-65).

Claim 20 & 21: Papantoniou et al. teach that the molecular weight of the copolymer depends on the "ultimate use of the copolymer" (column 4, line 1-7) and can be ultimately between 1,000 and 1,000,000 Daltons, preferably between 2,000 and 300,000 Daltons (column 4, lines 8-11). As such, the ordinarily skilled artisan is able to optimize the molecular weight (size) of the blocks to obtain the desired properties of the bulk copolymer.

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

The difference between the teachings of Papantoniou et al. and the instant claims is that Papantoniou et al. does not exemplify an embodiment of the ABA block copolymer with poly(ethylene glycol) as the B block.

**Finding of *prima facie* obviousness
Rationale and Motivation (MPEP 2142-2143)**

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to formulate a hair styling composition comprising an ABA copolymer with acrylate A blocks and an ethylene oxide B block according to the teachings of Papantoniou et al. and produce the instant invention. The skilled artisan would have been motivated to formulate a hair styling composition comprising an ABA copolymer with acrylate A blocks and an ethylene oxide B block because it is within purview of the skilled artisan to select a known material based on its suitability for its intended use. Reading a list and selecting a known compound to meet known requirements is no more ingenious than selecting the last piece to put in the last opening in a jig-saw puzzle (see MPEP § 2144.07).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in formulating a hair styling composition comprising an ABA copolymer with acrylate A blocks and an ethylene oxide B block according to the teachings of Papantoniou et al. and producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

11. Claims 5, 6, & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papantoniou et al. as applied to claims 1 & 2 above, and further in view of Adams et al. (WO 00/71607 A1).

Applicant claims

Applicant claims a hair treatment composition comprising a propellant, a carrier, and a copolymer, wherein the copolymer is an ABA copolymer where in the B block in poly(ethylene glycol), the A block is a (meth)acrylate block, and the blocks are connected to each other by a divalent linker group..

Determination of the scope and content of the prior art (MPEP 2141.01)

Detailed discussion of the rejection of claims 1 & 2 and the teachings of Papantoniou et al. appears above.

Papantoniou et al. also teach that the (B) sequence may be a polysiloxane (column 3, lines 1-5 and formula IV).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

The difference between the teachings of Papantoniou et al. and the instant claims is that Papantoniou et al. do not teach claimed divalent linkers in the copolymer. This deficiency in Papantoniou et al. is cured by the teachings of Adams et al.

Adams et al. teach, as a whole, a method of forming a block copolymer from a block containing a radically polymerizable monomer and a polysiloxane block and using the block copolymer in a hair-styling cosmetic (abstract).

Adams et al. teach a method of forming a block copolymer from a block containing a radically polymerizable monomer (A block) and a polysiloxane block (B block) where in the radically polymerizable block is end-modified with a leaving group that will react with the nucleophilic end groups of the polysiloxane (page 4, line 6-20). Adams et al. teach that the method results in block copolymers of the formula A-L-B-L-A where L is a divalent linker (page 16, lines 10-17). The divalent linker L is selected from -R-C(O)-O-, -R-O-C(O)-O-, etc. (page 15, line 24 through page 16, line 5). These formulae would include a linker containing -C(CH₃)₂-C(O)-. Though Adams et al. teach this process with polysiloxane blocks, the ordinarily skilled artisan would have realized that such a process would be expected to work with poly(alkylene oxide) blocks as well, as it contains the required end-groups (hydroxyls) to react with the end-modified radically polymerizable blocks.

**Finding of *prima facie* obviousness
Rationale and Motivation (MPEP 2142-2143)**

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to use the method of forming block copolymers as taught by Adams et al. to make the block copolymers of Papantoniou et al. and produce the instant invention. The skilled artisan would have been motivated to use the method of Adams et al. to make the copolymers of Papantoniou et al. because Adams et al.

teach that the method allows for improved control of the uniformity and length of the blocks over previous methods of making block copolymers (page 3, line 25 through page 3, line 25). Additionally, it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, namely making block copolymers for use in hair-styling compositions, in order to form a third composition to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in the prior art (See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) and MPEP § 2144.06).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in use the method of forming block copolymers as taught by Adams et al. to make the block copolymers of Papantoniou et al. and producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

In light of the forgoing discussion, one of ordinary skill in the art would have concluded that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

Double Patenting

12. Applicant is advised that should claim 20 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

Claims 1-3, 5-13, 15, & 17-21 are rejected. Claims 3 & 21 are objected to. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lea whose telephone number is (571) 270-5870. The examiner can normally be reached on Mon-Fri 7:30-3:30 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne "Bonnie" Eyler can be reached on (571)272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. R. L./

Examiner, Art Unit 1619

cri

/Ernst V Arnold/

Primary Examiner, Art Unit 1616